



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,669	03/29/2001	Scott J. Tuman	54407USA4C.007	4980

32692 7590 11/16/2004

3M INNOVATIVE PROPERTIES COMPANY
PO BOX 33427
ST. PAUL, MN 55133-3427

EXAMINER

PIAZZA CORCORAN, GLADYS JOSEFINA

ART UNIT PAPER NUMBER

1733

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,669

Applicant(s)

TUMAN ET AL.

Examiner

Gladys J Piazza Corcoran

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11,13-15,22-32 and 34-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32 and 34-40 is/are allowed.
- 6) ☒ Claim(s) 11,13,15,22-31,41-54,57-59,61-63 and 65-69 is/are rejected.
- 7) ☒ Claim(s) 14, 55, 56, 60, 64, 70 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 6, 2004 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 52, 53, 54, 66, 67, 68 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claims 50 and 62 recite a method of providing polymeric material on a fibrous major surface of a non-woven web where a polymeric region is "entangled with the fibrous major surface." Dependent claims 52, 53, 54, 66, 67, and 68 recite that the non-woven web comprises a film layer, an elastic film layer, or an elastic web. The only disclosure in the Specification where the polymeric region is "entangled with the fibrous

major surface" is when the non-woven web is "orange construction paper" (Example 13 on pages 17-18 with substrate G on page 11). There is no disclosure of entangling the polymeric region with the fibrous surface where the web comprises a film layer, an elastic film layer, or an elastic web. While the Specification discloses that the web may be a composite of various fibers and films (page 6, line 1), there is no disclosure that the composite has the fibers on the outer layer and entangled with the polymeric regions. It is further noted that throughout the Specification, the bond between the polymeric region and the web is described as being "fused" (page 2, lines 4, 30; page 3, line 1; page 6, line 23; page 8, line 3; page 9, line 17). Consequently, there is no support in the original Specification that indicates to one of ordinary skill in the art that the inventors had possession of a fibrous web structure comprising a film, elastic film or elastic web with the polymeric region entangled with the fibers of the web.

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 59 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 59 is unclear by reciting "from the first major surface of the web" in lines 3-
4. The claim is unclear because it is unclear how the polymeric regions are applied form the first major surface of the web. It appears that Applicant intends to recite that the polymeric regions are applied form the side of the web where the first major surface is. It is suggested to amend to --the first major surface side of the web--.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 11, 13, 22, 23, 25, 27-29, 31, 41, 42, 44-46, 48-51, 58, 59, 61-63, 65 are rejected under 35 U.S.C. 102(e) as being anticipated by Shepard et al. (US Patent No. 6,205,623).

As to claim 11, Shepard discloses a method of making a web material having a plurality of stems extending from discrete regions of the web by providing a web (strips 350) comprising first and second major surfaces, providing a plurality of discrete quantities of polymeric material on the first major surface of the web at a temperature above its softening point (the middle strips have polymeric material on both edges of the web; molten plastic 310), wherein a plurality of discrete polymeric regions are formed on only the first major surface of the web and forming a plurality of stems (hooks formed by mold roll 318) in each discrete polymeric region of the plurality of discrete polymeric regions on the first major surface of the web (column 9, lines 45-63).

As to claim 42, Shepard discloses a web construction comprising a plurality of stems distributed in discrete regions on the web construction by providing a web

construction comprising a web (strips 350) and a plurality of discrete polymeric regions on a first major surface of the web (the middle strips have polymeric material on both edges of the web; molten plastic 310), wherein each discrete polymeric region comprises a discrete quantity of polymeric material, providing a tool (318) comprising a plurality of stem forming holes (cavities) in a surface of the tool (318), pressing the web and the plurality of discrete polymeric regions located on the first major surface of the web against the surface of the tool roll (with pressing roll 316) when the polymeric material of each discrete polymeric region is above its softening point (molten plastic 310), wherein a portion of the polymeric material enters the stem-forming holes (cavities), and separating the web construction from the surface of the tool, wherein each discrete polymeric region comprises a plurality of stems formed by the stem forming holes (column 9, lines 45-63 and figures 6a and 6b).

As to claim 50, Shepard discloses a method of manufacturing a mechanical fastener by providing at least one discrete quantity of polymeric material (310) on a fibrous major surface of a non-woven web (350), wherein the at least one discrete quantity of polymeric material forms at least one discrete polymeric region (350) entangled with the fibrous major surface (column 9, lines 60-61) and forming a plurality of stems (hooks) in the at least one discrete polymeric region (310; column 9, lines 45-63).

As to claim 58, Shepard discloses a method of making a web material having a plurality of stems extending from discrete regions of the web by providing a web (350), providing a plurality of discrete quantities of polymeric material on a first major surface

of the web at a temperature above its softening point (the middle strips have polymeric material on both edges of the web; molten plastic 310), wherein a plurality of discrete polymeric regions are formed on the first major surface of the web and forming a plurality of stems (hooks) in each discrete polymeric region of the plurality of discrete polymeric regions after forming the plurality of discrete polymeric regions (the discrete polymeric regions are formed when they are separated into separate streams prior to pressing against the die wheel and then the stems are formed in the mold cavities against roll 318) (column 9, lines 45-63).

As to claim 62, Shepard discloses a method of making a mechanical fastener by providing a substrate (strips 350) comprising a fibrous first major surface and a second major surface, providing a plurality of discrete quantities of polymeric material on the fibrous first major surface of the substrate at a temperature above its softening point (the middle strips have polymeric material on both edges of the web; molten plastic 310), wherein a plurality of discrete polymeric regions are formed on only the first major surface of the substrate, wherein the plurality of discrete polymeric regions (310) are not located on the second major surface of the substrate, and wherein the plurality of discrete polymeric regions are entangled with the fibrous first major surface of the substrate (column 9, lines 60-61), and forming a plurality of stems (hooks) in each discrete polymeric region of the plurality of discrete polymeric regions on the fibrous first major surface of the substrate (column 9, lines 45-63).

As to claim 13, the discrete quantities of polymeric material are provided by extruding molten polymer in a form of continuous ribbons (column 9, lines 29-63). As to

claims 22 and 45, Shepard discloses the plurality of discrete polymeric regions separated by inter-regions revealing exposed portions of the first major surface of the web (column 9, lines 45-63 and figures 6a and 6b). As to claims 23 and 46, the web comprises loop structures adapted to lock with the plurality of stems (loop material column 9, lines 45-63). As to claims 25 and 48, Shepard discloses the plurality of discrete polymeric regions comprise a plurality of stripes extending over the first major surface of the web (see figures 6a and 6b). As to claim 27, Shepard discloses the polymeric regions cover within the percentages as claimed of the first major surface of the web (column 2, lines 14-16; column 3, lines 7-10). As to claims 28 and 49, Shepard discloses the plurality of stems comprise hooks (hook component). As to claims 29 and 31, Shepard discloses the stems are oriented at an angle that is not normal to the plane of the web (angled towards the loop material) and the tool holes are considered to correspond to the angles not normal to the localized plane of the web (see for example, figures 4a and 4b, 13, 14, column 4, lines 45-50). As to claim 41, the polymeric material is cooled to room temperature to a non-molten state after forming the stems. As to claim 44, the plurality of discrete polymeric regions are located on only one major surface of the web (column 9, lines 45-63). As to claim 51, Shepard discloses simultaneously pressing the polymeric material against the fibrous major surface of the web while forming the plurality of stems (the polymeric material and the web are pressed between a nip of a pressure roll and a molding roll). As to claim 59, Shepard discloses that the plurality of discrete polymeric regions on the first major surface of the web comprises applying the plurality of discrete polymeric regions to the first major

surface of the web from the first major surface of the web. As to claim 61, the stems comprise ends spaced away from the first major surface of the web. As to claim 63, the discrete polymeric regions are deposited only on the first major surface of the substrate. As to claim 65, the forming step comprises pressing each discrete quantity of polymeric material against the fibrous first major surface of the web while forming the plurality of stems.

6. Claims 42, 45, 48-51, 58 are rejected under 35 U.S.C. 102(b) as being anticipated by Murasaki (US Patent No. 5,643,651) as set forth in paragraph 12 of the prior Office Action filed July 18, 2003 and restated below.

As to claim 42, Murasaki discloses a web construction comprising a plurality of stems distributed in discrete regions on the web construction (12) by providing a web construction comprising a web (12) and a plurality of discrete polymeric regions on a first major surface of the web (4a), wherein each discrete polymeric region comprises a discrete quantity of polymeric material, providing a tool (2) comprising a plurality of stem forming holes in a surface of the tool (5), pressing the web and the plurality of discrete polymeric regions located on the first major surface of the web against the surface of the tool roll when the polymeric material of each discrete polymeric region is above its softening point (injecting or extruding the polymeric material and passing with the web between a pressure nip), wherein a portion of the polymeric material enters the stem-forming holes (5), and separating the web construction from the surface of the tool, wherein each discrete polymeric region comprises a plurality of stems formed by the stem forming holes (see figures).

As to claim 50, Murasaki discloses providing at least one discrete quantity of polymeric material (4) on a fibrous major surface of a non-woven web (Murasaki discloses using non-woven webs with fibrous surfaces for the connector (i.e. paper)(column 2, lines 14-30)), wherein the at least one discrete quantity of polymeric material forms at least one discrete polymeric region (4a) entangled with the fibrous major surface (the polymeric region clearly is entangled with the fibrous surface as it is molded throughout the web) and forming a plurality of stems (4b) in the at least one discrete polymeric region (4a).

As to claim 58, Murasaki discloses a method of making a web material (12) having a plurality of stems (4b) extending from discrete regions (4a) of the web by providing a web (12), providing a plurality of discrete quantities of polymeric material on a first major surface of the web at a temperature above its softening point (plural strips of resin material are injected or extruded), wherein a plurality of discrete polymeric regions are formed on the first major surface of the web and forming a plurality of stems in each discrete polymeric region of the plurality of discrete polymeric regions (a plurality of stems 4b are formed in each strip of polymeric material 4a) after forming the plurality of discrete polymeric regions (the discrete polymeric regions are formed when they are separated into separate streams prior to pressing against the die wheel and then the stems are formed in the mold cavities and cooled).

As to claim 45, Murasaki discloses the plurality of discrete polymeric regions separated by inter-regions revealing exposed portions of the first major surface of the web (see figures 4, 5). As to claim 48, Murasaki discloses the plurality of discrete

polymeric regions comprise a plurality of stripes extending over the first major surface of the web (see figures 4, 5). As to claim 49, Murasaki discloses the plurality of stems comprise hooks (hook elements 4b). As to claim 51, Murasaki discloses simultaneously pressing the polymeric material against the fibrous major surface of the web while forming the plurality of stems (the polymeric material and the web are pressed between a nip of a pressure roll and a molding roll).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 15, 43, 57, 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shepard et al. (US Patent No. 6,205,623) as applied to claims 11, 42, 50, 62 above

and further in view of Morris (US Patent No. 5,792,411) and/or Melbye et al. (US Patent No. 5,077,870).

Shepard discloses forming hooks in the polymeric region where the hooks are hook shaped or mushroom shaped however there are no specifics on how the mushroom shapes are formed (column 6, lines 46-47). It is well known in the art of forming fasteners to form stems that are deformed with a heated surface in order to form enlarged ends (mushrooms) on the stems for better fastening. For example, Morris discloses it is known in the art to form stems in molded tools as fasteners and to deform the stems to form enlarged ends on the stems (column 6, lines 33-36; column 8, lines 59-63). Melbye is another example in the art where stems are deformed with a heated surface in order to form enlarged ends on the stems for better fastening (column 5, lines 50-60). It would have been obvious to one of ordinary skill in the art at the time of the invention to form the fastening members as shown in Shepard by deforming the stems with a heated surface in order to form enlarged ends on the stems as is well known in the art and further exemplified by Morris and/or Melbye in order to form mushroom heads with better fastening.

10. Claims 24, 47, 52-54, 66-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shepard et al. (US Patent No. 6,205,623) as applied to claims 11, 42, 50, 62 above and further in view of Guay (US Patent No. 4,714,096), Reich et al. (US Patent No. 5,456,660), Yoshida (EP 0 233 364), King (WO 96/04812), and/or Goulait (US Patent No. 6,080,347).

Shepard discloses the substrate web is a non-woven loop material web. It is considered well known in the art to provide substrate webs for fastening materials, in particular loop non-woven webs, as elastic webs including laminates with an elastic film layer. For example, Guay discloses an example of known materials for loop material for a mechanical fastener where the loop material is made of an elastic web (column 2, lines 1-10). Reich also discloses an example of providing the loop material in a mechanical fastener structure out of an elastic web (column 3, lines 26-27). Yoshida is another example of forming a loop material for a Velcro fastener from elastic web material (entire patent). King discloses an example of a loop material for a mechanical fastener by providing a laminate of a non-woven with an elastic film layer (backing layer 34, page 8). Goulait additionally shows an example of providing the substrate for hoop mechanical fasteners from a laminate of an elastic film layer and non-woven layers (column 5, lines 5-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the substrate of the fastener web formed in Shepard out of an elastic material and further with an elastic film layer as is considered well known in the art for providing flexible mechanical fasteners as exemplified by Guay, Reich et al., Yoshida, King, and/or Goulait.

11. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shepard et al. (US Patent No. 6,205,623) as applied to claim 11 above.

Shepard discloses the method as claimed as discussed above in reference to claim 11. Shepard discloses that the overlap of the hook material (discrete polymeric material) is about 10% of the loop web (web; column 2, lines 13-14; column 3, lines 5-

10). Shepard also discloses embodiments where a small hook material portion is entirely on the web material and an embodiment where the hook material entirely covers the web material (column 7, lines 48-57) however does not particularly disclose the method of forming such structures. It would have been well within the purview to one of ordinary skill in the art at the time of the invention to form the mechanical fastener of the embodiments of the hook material being entirely on the web material by the method of providing a plurality of discrete polymeric regions as discussed above. Such embodiments would have the percent ranges as claimed. Furthermore, such range percentages would have been well within the purview of one of ordinary skill in the art in order to provide a variety of end products. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the method of forming the fastener material as shown by Shepard by providing the discrete polymeric regions over 5 to 80 percent of the web material in order to form a variety of end products as would have been well within the purview of one of ordinary skill in the art and in order to provide the product in the embodiment as shown by Shepard. Only the expected results would be attained.

12. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shepard et al. (US Patent No. 6,205,623) as applied to claim 11 above and further in view of Morris et al. (US Patent No. 5,792,411).

The hooks in Shepard are oriented at an angle that is not normal to the plane of the web. Furthermore, it is well known in the art to provide stems and the tools for molding stems in angles not normal to the plane of the web and in different directions.

For example, Morris discloses forming stems with a tool with angled holes that forms angled stems not normal to the plane of the web and in different directions (column 5, lines 14-39; column 6, lines 38-53; column 7, lines 10-23). It would have been obvious to one of ordinary skill in the art at the time of the invention to form the stems in Shepard at differing angles not normal to the plane of the web with a tool with angled holes as is well known in the art and exemplified by Morris in order to form stems with improved directional fastening.

13. Claims 11, 13, 22, 23, 25-31, 41, 44, 46, 47, 50, 51, 54, 59, 61-63, 65, 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murasaki (US Patent No. 5,643,651) as applied to claims 11 and 42 above and further in view of Kennedy et al. (US Patent No. 5,260,015).

As to claim 11, Murasaki discloses a method of making a web material (12) having a plurality of stems (4b) extending from discrete regions (4a) of the web by providing a web (12) comprising of a first major surface and a second major surface, providing a plurality of discrete quantities of polymeric material on the first major surface of the web at a temperature above its softening point (plural strips of resin material are injected or extruded), wherein a plurality of discrete polymeric regions are formed on the web and forming a plurality of stems in each discrete polymeric region of the plurality of discrete polymeric regions on the first major surface of the web (a plurality of stems 4b are formed in each strip of polymeric material 4a).

As to the limitation that the polymeric regions are formed on only the first major surface of the web in claims 11 and 44, Murasaki discloses forming the polymeric

regions on the web by impregnating through the web and molding the regions to form substrate regions with stems. However, it is known in the art to provide the polymeric material on only one surface of the web in order to provide the opposite surface of the web with a softer touch. For example, Kennedy discloses providing the polymeric region on only one surface of the web only to a degree to firmly hold the polymeric region to the web in order to not encase the web thus destroying the aesthetic characteristics as a functioning backing material in order to modify the back surface of the fastener (column 2, lines 20-53). As to claims 23 and 46, Kennedy discloses using loop material as the web material in order to form back to back fasteners with less bulk (column 2, lines 40-53). It would have been obvious to one of ordinary skill in the art at the time of the invention to form the web with discrete polymeric regions as shown by Murasaki by applying the polymeric regions to only one surface of the web in order to not fully encase the web and to not destroy the aesthetic characteristics of the web and to modify the back surface of the fastener as shown by Kennedy.

As to claim 13, the discrete quantities of polymeric material are provided by extruding molten polymer in a form of continuous ribbons (column 6, lines 48-65). As to claim 22, Murasaki discloses the plurality of discrete polymeric regions separated by inter-regions revealing exposed portions of the first major surface of the web (see figures 4, 5). As to claim 25, Murasaki discloses the plurality of discrete polymeric regions comprise a plurality of stripes extending over the first major surface of the web (see figures 4, 5). As to claims 26 and 27, Murasaki appears to disclose the polymeric regions cover within the percentages as claimed of the first major surface of the web

(see figures 4, 5). While Murasaki does not specifically disclose what the percentages of the polymeric regions that cover the surfaces of the web, it would have been obvious to one of ordinary skill in the art at the time of the invention to cover the web in the claimed percentages as it would have been well within the purview of one of ordinary skill in the art, only the expected results would be obtained. As to claim 28, Murasaki discloses the plurality of stems comprise hooks (hook elements 4b). As to claims 29-31, it appears that Murasaki discloses the stems are oriented at an angle that is not normal to the plane of the web in different directions and that tool holes correspond to the angles not normal to the localized plane of the web (see for example, figure 4, column 4, lines 25-48). As to claim 41, Murasaki discloses cooling the discrete quantities of the polymeric material to a non-molten state after forming the plurality of stems (column 5, lines 1-7; column 7, lines 5-13). As to claim 50, see the discussion of claim 11 above and further Kennedy discloses forming the polymeric material on the web to entangle the polymer material with the fibrous surface of webs (column 3, lines 40-65; column 5, lines 54-65). As to claim 51, see the discussion above. As to claim 59, as discussed above, the polymeric material is applied from the side of the web on which it is to be applied. As to claim 61, the stems are spaced away from the first major surface of the web. As to claim 62, see the discussion of claim 11 above and further both Murasaki and Kennedy disclose providing a fibrous surface and Kennedy discloses forming the polymeric material on the web to entangle the polymer material with the fibrous surface of webs (column 3, lines 40-65; column 5, lines 54-65). As to claim 63, the polymeric material is deposited on the substrate. As to claim 65, the polymeric

material is pressed against the fibrous first major surface while forming the plurality of stems.

As to claims 24, 47, 54 and 68, Murasaki and Kennedy both disclose the web material can be a variety of known materials including woven and non-woven materials, however they do not specifically disclose using an elastic material. It is well within the purview of one of ordinary skill in the art to provide an elastic material as the web material as a well known material for webs of fastening materials in a variety of applications particularly since Murasaki emphasizes a fastening material that is conformable and flexible and Kennedy discloses the web material is a loop material and these materials are well known to be elastic materials. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the web in Murasaki and Kennedy of an elastic material as is well within the purview of one of ordinary skill in the art, Murasaki discloses the importance of flexibility of the material and Kennedy discloses the preference of using loop material as the web material which is well known to be elastic, only the expected results would be attained.

14. Claims 15, 43, 57, 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murasaki (US Patent No. 5,643,651) (optionally in view of Kennedy et al. US Patent No. 5,260,015) as applied to claims 11, 42, 50, 62 above and further in view of Morris (US Patent No. 5,792,411) and/or Melbye et al. (US Patent No. 5,077,870).

Murasaki discloses forming hooks in the polymeric region. It is well known in the art of forming fasteners to form stems that are deformed with a heated surface in order to form enlarged ends on the stems for better fastening. For example, Morris discloses

it is known in the art to form stems in molded tools as fasteners and to deform the stems to form enlarged ends on the stems (column 6, lines 33-36; column 8, lines 59-63).

Melbye is another example in the art where stems are deformed with a heated surface in order to form enlarged ends on the stems for better fastening (column 5, lines 50-60).

It would have been obvious to one of ordinary skill in the art at the time of the invention to form the fastening members as shown in Murasaki by deform the stems with a heated surface in order to form enlarged ends on the stems as is well known in the art and exemplified by Morris and/or Melbye in order to form mushroom heads with better fastening.

15. Claims 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murasaki (US Patent No. 5,643,651) as applied to claim 11 above and further in view of Morris et al. (US Patent No. 5,792,411).

It appears that Murasaki discloses the stems are oriented at an angle that is not normal to the plane of the web in different directions and that tool holes correspond to the angles not normal to the localized plane of the web (see for example, figure 4, column 4, lines 25-48). Furthermore, it is well known in the art to provide stems and the tools for molding stems in angles not normal to the plane of the web and in different directions. For example, Morris discloses forming stems with a tool with angled holes that forms angled stems not normal to the plane of the web and in different directions (column 5, lines 14-39; column 6, lines 38-53; column 7, lines 10-23). It would have been obvious to one of ordinary skill in the art at the time of the invention to form the stems in Murasaki at differing angles not normal to the plane of the web with a tool with

angled holes as is well known in the art and exemplified by Morris in order to form stems with improved directional fastening.

16. Claims 24, 47, 52-54, 66-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murasaki (US Patent No. 5,643,651) (optionally in view of Kennedy et al. (US Patent No. 5,260,015)) as applied to claims 11, 42, 50, 62 above and further in view of Guay (US Patent No. 4,714,096), Reich et al. (US Patent No. 5,456,660), Yoshida (EP 0 233 364), King (WO 96/04812), and/or Goulait (US Patent No. 6,080,347).

Murasaki (and Kennedy) discloses the web material can be a variety of known materials including woven and non-woven materials, however Murasaki does not specifically disclose using an elastic material. It is well within the purview of one of ordinary skill in the art to provide an elastic material (including elastic film layers) as the web material as a well known material for webs of fastening materials in a variety of applications particularly since Murasaki emphasizes a fastening material that is conformable and flexible. It is further noted that, Kennedy discloses the improvement that the web material is a loop material and these materials are well known to be elastic materials. For example, Guay discloses an example of known materials for loop material for a mechanical fastener where the loop material is made of an elastic web (column 2, lines 1-10). Reich also discloses an example of providing the loop material in a mechanical fastener structure out of an elastic web (column 3, lines 26-27). Yoshida is another example of forming a loop material for a Velcro fastener from elastic web material (entire patent). King discloses an example of a loop material for a

mechanical fastener by providing a laminate of a non-woven with an elastic film layer (backing layer 34, page 8). Goulait additionally shows an example of providing the substrate for hoop mechanical fasteners from a laminate of an elastic film layer and non-woven layers (column 5, lines 5-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the substrate of the fastener web formed in Murasaki (and Kennedy) out of an elastic material and further with an elastic film layer as is considered well known in the art for providing flexible mechanical fasteners as exemplified by Guay, Reich et al., Yoshida, King, and/or Goulait.

Allowable Subject Matter

17. Claims 32, 34-40 are allowed for the reasons as set forth in the prior Office Action, filed January 6, 2003.

18. Claims 14, 55, 56, 60, 64 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter:

Claim 14 is indicated allowable for the reasons as set forth in paragraph 24 of the prior Office Action, filed July 18, 2003.

As to claims 55 and 56, absent any additional prior art, no prior art was found to show or suggest a method of making a mechanical fastener where a plurality of discrete quantities of polymeric material are provided on fibrous major surface of a non-woven web where at least one discrete polymeric region is surrounded by the fibrous major

Art Unit: 1733

surface of the non-woven web (for claim 55) or at least one discrete polymeric region comprises a plurality of discrete patches on the fibrous major surface of the non-woven web (for claim 56) and a plurality of stems are formed in the at least one discrete polymeric region (after the discrete quantity of polymeric material is provided on the non-woven web to form the discrete polymeric region).

As to claims 60, 64, 70, absent any additional prior art, no prior art was found to show or suggest a method of making a web material (mechanical fastener for claim 64) where a plurality of discrete quantities of polymeric material are provided (deposited for claim 70) on only a first major surface of a web at a temperature above its softening point where each discrete polymeric region comprises a discrete patch surrounded on all sides by the first major surface of the web.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kurtz, Jr. et al. (US Patent No. 6,692,674), Tanzer et al. (US Patent No. 6,730,069), Provost (US 2003/0034583), and Krantz et al. (US Patent No. 2002/0022108) are cited as related art not available as prior art.

Response to Arguments

19. Applicant's arguments filed July 6, 2004 and October 6, 2004 have been fully considered but they are not persuasive.

As to the arguments filed July 6, 2004:

Applicant argues on page 10-12, that the claims 52, 53, and 54 contain the open ended language "comprising" and therefore do not exclude additional un-recited

elements, and that webs of the constructions are supported in the Specification and claims as originally filed. The Specification does disclose webs of film layers or elastic materials, however, claims 52-54 depend from claim 50. Claim 50 requires that at least one discrete polymeric material forms at least one discrete polymeric region entangled with the fibrous major surface. The only disclosure in the Specification of the polymeric region entangling with a fibrous major surface is that of example 13 on pages 17-18 of the Specification where the non-woven web is Substrate G (described on page 11 of the Specification as orange construction paper). There is no support in the Specification for the combination of where the polymeric material is entangled with a fibrous major surface of the web where the web is a film, and elastic film or an elastic web.

Applicant argues on page 18 that there is no legally sufficient motivation to combine the teachings of Murasaki with those of Kennedy and that such would render Murasaki unsatisfactory for its intended purpose. One of ordinary skill in the art at the time of the invention practicing the method of Murasaki would be motivated to provide the polymeric regions only on one surface of the web in order to provide the improvements as shown by Kennedy of not destroying the aesthetic characteristics as a functioning backing material in order to modify the back surface of the fastener. Such is considered more than sufficient motivation. It is also not considered unsatisfactory for the intended purpose of Murasaki. One of ordinary skill in the art would readily recognize that the advantage of forming a flexible fastener web with multiple fastener strips on one web as shown by Murasaki and form the polymeric regions only on one

surface of the web in order to provide the improvements as shown by Kennedy. Such is not considered to be unsatisfactory for the intended purpose of Murasaki.

As to the arguments filed October 6, 2004:

Applicants argue that the amendments to independent claims 11 and 42 overcome the 35 USC 102 rejections of the previous Office Action. Such rejections have been withdrawn, however the claims are currently rejected under 35 USC 103 and the newly cited reference Shepard under 35 USC 102.


As to the 35 USC 103 rejections, Applicant points to the previously presented arguments. These have been discussed above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gladys J Piazza Corcoran whose telephone number is (571) 272-1214. The examiner can normally be reached on M-F 8am-5:30pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Gladys J. Corcoran
Primary Examiner
Art Unit 1733

GJPC